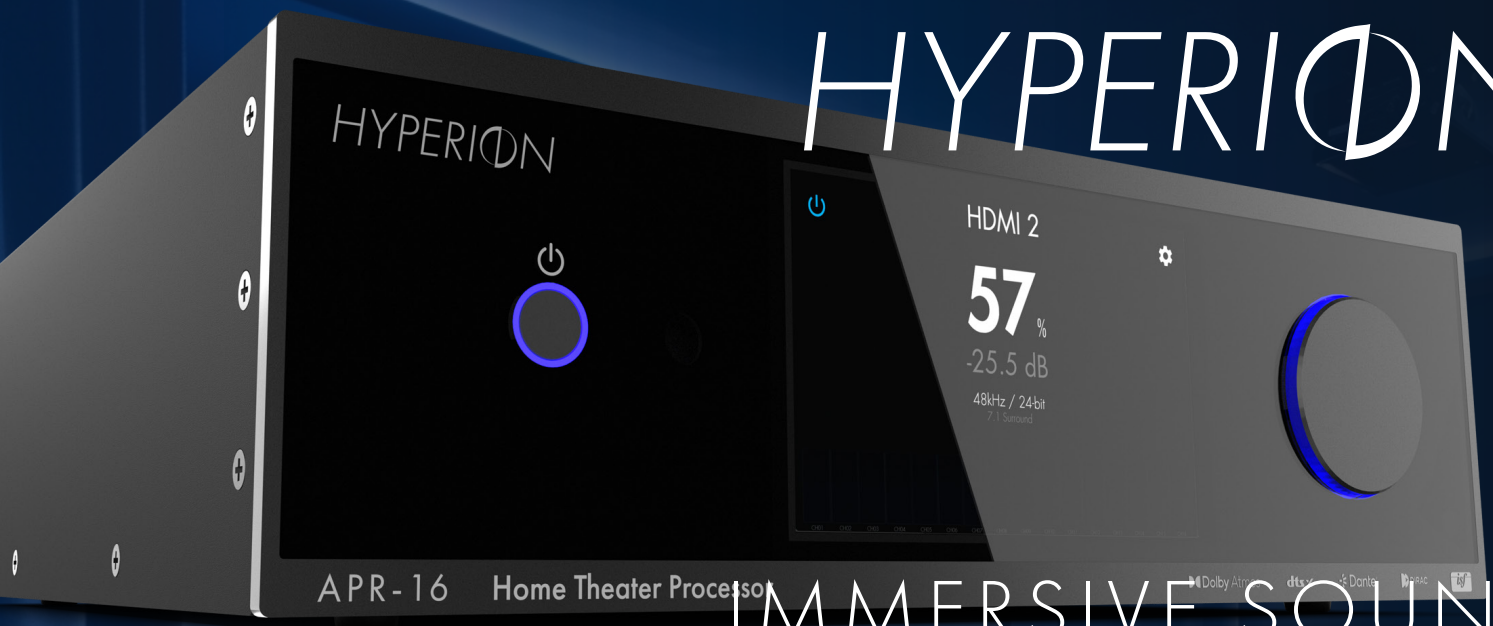
HYPERION



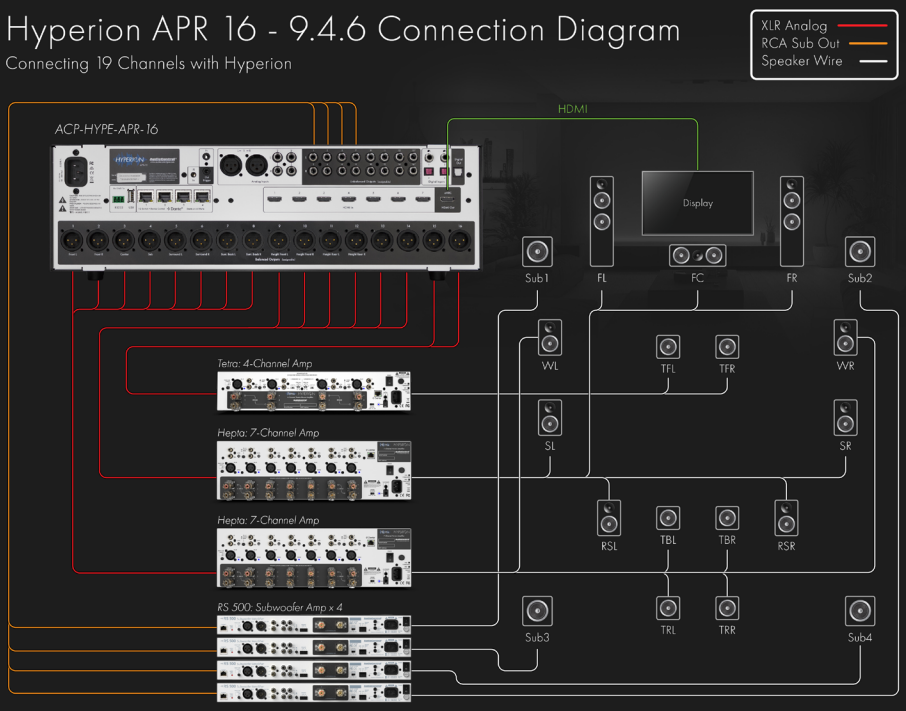
IMMERSIVE SOUND PRE-AMP PROCESSOR

ACP-HYPE-APR-16

The APR-16 is Hyperion's flagship 16-channel processor, engineered for reference-grade residential cinema installations. Built on a unique dual-ARM DSP architecture, the APR-16 decodes Dolby Atmos and DTS:X and distributes them across 20 processed output channels, assignable to its 16 balanced XLR and 16 unbalanced RCA outputs. Seven HDMI 2.1 inputs support 48 Gbps video signals, delivering ISF-certified pixel-accurate video passthrough to any display. The built-in four-port gigabit Ethernet switch enables network control and Dante networked audio distribution over standard Cat cable. Calibrated with Dirac Live or HAA Link using the included measurement microphone, the APR-16 adheres to all CEDIA/CTA-RP22 technical benchmarks.

Hyperion APR 16 - 9.4.6 Connection Diagram

Connecting 19 Channels with Hyperion



AudioControl®
Making Good Sound Great™

SUPERIOR CINEMATIC EXPERIENCE

INPUTS	
HDMI Inputs	7× 48 Gbps HDMI 2.1
Digital Inputs	2× Optical TOSLINK, 2× Coax S/PDIF
Analog Inputs	1× Stereo XLR (balanced), 2× Stereo RCA (unbalanced)
Analog Input Impedance	47 kΩ
Analog Input Sensitivity	2 Vrms
Dante Inputs	2 channels in
OUTPUTS	
Processed Output Channels	20, individually assignable
Preamp Outputs	16× RCA unbalanced + 16× XLR balanced
Digital Output	1× Optical TOSLINK
HDMI Output	1× HDMI (eARC)
Dante Outputs	2 channels out (stereo downmix of the active input)
AUDIO	
DAC	ESS SABRE ES9039Q2M
Frequency Response	20 Hz – 20 kHz (±0.05 dB)
THD+N	<0.0004%
SNR (20–20 kHz A-wtd)	>122 dBr (ref 4.2 Vrms) / <–129 dBr (ref 10 Vrms)
Max Output Swing – XLR	10 Vrms / +22 dBu @ 0 dBFS (Balanced)
Max Output Swing – RCA	4 Vrms / +14.2 dBu @ 0 dBFS (Unbalanced)
Max Input Level	RCA: 2.1 Vrms / XLR: 4.2 Vrms
Input Impedance	RCA: >10 kΩ / XLR: >10 kΩ
PROCESSING	
Sampling Rate	Up to 24-bit / 192 kHz
HDMI Version	HDMI 2.1, HDCP 2.3
Max Resolution	4K/120 Hz / 8K/60 Hz | HDR Support: HDR10, HDR10+ | Gaming: VRR, ALLM
Max Bandwidth	48 Gbps
Audio Formats	Dolby Atmos, DTS:X
Speaker Layouts	Presets available from 2.0 – 9.1.6; build custom layouts up to 20 channels, multiple stored layouts, each with its calibration.
Per-Channel Processing	Crossover, 6-band PEQ, high/low shelf, delay, level; separate XLR / RCA trim; per-output mute
Bass Management	Per-channel crossovers, multi-subwoofer steering by configured subwoofer position, LFE and Sub Boost
Speaker Distance Units	Feet, meters, or milliseconds
Room Calibration	Dirac Live (Room Correction, Bass Control, ART); HAA Link
CONTROL	
IP Control	Full API over Ethernet (port 8080); Web GUI at hyperion.local
Serial	RS-232
IR Input	3.5mm TR, 5-24V
HDMI-CEC	Power on/off and input switching
Trigger	Trigger Input (3.3–12V) + Trigger Output (+5V or +12V)
Network	4-port built-in gigabit Ethernet switch (Dante)
POWER	
Input Voltage	AC 100-240V ~ 50/60 Hz
Power Consumption (Max)	<50 Watts
PHYSICAL	
Dimensions (H×W×D)	cm: 13.44 × 43.82 × 45.09 | inches: 5.25 × 17.25 × 17.75
Weight	18.70 lbs / 8.48 kg
Rack Space	3U
CERTIFICATIONS	
Standards & Best Practices	CEDIA/CTA-RP22 (all 21 benchmarks), ISF Certified, FCC Class B
*Specifications reflect firmware v1.2.0 and are subject to change without notice. Mass & dimensions are approximate	

HIGH PERFORMANCE DAC

The APR-16 employs 16 ESS SABRE ES9039Q2M Hyperstream IV 32-bit DACs, with eight dedicated to the true differential-driven, balanced XLR output stage and eight to the single-ended RCA outputs. Engineered to deliver audiophile-grade paired-channel decoding across all analog outputs. Measured performance includes a dynamic range of +130 dB and THD+N of –120 dB.

ENGINEERED FOR FLEXIBILITY

Twenty processed output channels, added by firmware on units already in the field, are each assignable across 32 XLR and RCA outputs: a height pair, a wider bed, more surrounds, or additional subwoofers. Outputs can share a channel for bi- or triamping. Every channel has its own crossover, 6-band PEQ, high/low shelf filters, delay, and up to ±60 dB of gain and trim, with separate XLR and RCA trims and per-output mute.

SPEAKER PROFILES & LAYOUTS

Select a speaker from AudioControl's database of thousands of tuned profiles, and its channel is voiced immediately, so calibration starts from a speaker behaving as designed. Store as many layouts as a room needs, each with its own calibration; apply pre-configured layouts and zones in one step, or save user layouts to reuse on every project.

DIRAC LIVE & HAA LINK

Two paths to a tuned room, both measured with the calibrated microphone and 15 ft USB cable included in the box. Dirac Live provides Room Correction, Bass Control, and Active Room Treatment (ART), fully supported at all 20 channels, so multiple subwoofers under bass management move with the picture. The APR-16 is also the first processor to interface with HAA Link from the Home Acoustics Alliance.

IMMERSIVE HOME STANDARDS

RP22, the Immersive Audio Design Recommended Practice (CEDIA/CTA-RP22), is a set of recommended practices that provide a framework for designing, installing, and calibrating home immersive audio systems. Hyperion products are designed with RP22 performance criteria in mind, ensuring integrators have the tools available to achieve their design and engineering goals.

ISF CERTIFIED

The APR-16's HDMI video platform was engineered by AVPro Edge exclusively for Hyperion, with seven HDMI 2.1 inputs operating at 48 Gbps. Video passes through without OSD processing, preserving pixel-accurate fidelity from source to display, as independently verified by ISF certification.

DANTE NETWORK AUDIO

The APR-16 includes a built-in four-port Ethernet switch with Dante support, providing 2x2 audio over IP. The Dante output delivers a stereo downmix of the active audio source, making it ideal for distributing audio to a whole-home Dante-based distribution system.